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THE MEDICAL JOURNAL OF AUSTRALIA.

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NOTES ON SOME INTERESTING GENITO-URINARY CASES, ILLUSTRATING—
(*i.*) TREATMENT OF URETERAL FISTULA FOLLOWING URETERO-LITHOTOMY,
(*ii.*) EXTENSIVE URETEROCELE WITH VESICAL CALCULUS,
(*iii.*) TWO-STAGE PROSTATECTOMY,
(*iv.*) BILATERAL RENAL DECAPSULATION FOR POST-ECLAMPTIC SUPPRESSION OF URINE, WITH RECOVERY,
(*v.*) NEPHRECTOMY FOR HYPERNEPHROMA.[1]

By **S. Harry Harris, M.D., Ch.M.,**
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Although it is not the usual practice to present at a monthly meeting of this Branch reports of a number of individual cases, which neither have any direct bearing upon each other, nor seem to illustrate any particular regional pathology, yet, as none of the conditions described is common in the every-day run of surgical practice, and as each presents some unusual features, it has seemed worth while to bring them forward together for your consideration and to append thereto some observations bearing on the chief points of interest.

(*i.*) Ureteral Fistula Following Uretero-Lithotomy; Ureteral Catheterization; Cure.

J.B., æt. 58 years, consulted me on August 28, 1915, on account of painful and difficult micturition of gradually increasing severity, dating from an attack of right-sided renal colic, two and a half years before. He had been examined radiographically eighteen months and again four months previously, on each occasion with a negative result. When first seen he was suffering from bladder pain, pyuria and frequency, with occasional bouts of hæmaturia. There was also straining throughout the act of micturition and some incontinence of urine. A free growth of *bacillus coli communis* was cultured from the bladder urine. The rectal examination was negative. On cystoscopic examination, the middle lobe of the prostate was found to be enlarged, and a rounded, mulberry calculus, nearly one inch in diameter, was seen lying in the bladder. There was a moderate degree of cystitis and marked trabeculation. The ureteral orifices were normal. There was a deficient (light green) excretion of indigo-carmine from each kidney. No further examination of the urinary tract was thought necessary at this time. After due preparation, the prostate and an oxalate of lime stone were removed under "anoci-association" on September 10. The convalescence was uneventful. There was complete relief from the bladder symptoms, and the patient returned to his home in the country four weeks after the operation.

On February 29, 1916, *i.e.*, about 5½ months after the operation, he again reported himself, on account of pain in the right lumbar region, which had been present more or less constantly for two months. There were no bladder symptoms. There was at this time a considerable amount of pus in the urine, which had been practically clear, when I last saw him. On March 25, 1916, there being no improvement, he was referred for a further X-ray examination. On this occasion a shadow was found below the transverse process of the fourth lumbar vertebra on the right side. On April 4 I removed a stone from the ureter by an extra-peritoneal operation, through a vertical rectus incision. The stone was of the shape of, but slightly smaller than, an olive stone, and was covered with sharp spicules. It was firmly embedded in the ureteral lumen. As the ureter and its fibrous sheath were considerably thickened, the edges were accurately apposed by a few catgut sutures and a small rubber dam drain was inserted through a stab wound in the loin. From the first 24 hours onwards there was a copious flow of high-smelling urine through the stab wound. Practically all the urine from this kidney was evidently discharging through the fistula, as only 12 ounces passed daily *per urethram*. On the eighth day after the operation cystoscopy was performed. The indigo-carmine test was normal on the left side. It will be remembered that it was deficient at the time of the prostatectomy. There was just a dribble of dark blue fluid from the right ureteral orifice. A No. 7 (French) ureteral catheter was passed up into the right kidney without meeting any obstruction and well-coloured blue urine flowed through it immediately. The catheter was retained in the kidney for ten days. At the end of this time the sinus was completely healed, no urine having escaped through it from the time the catheter was inserted. Two drachms of a 2% protargol solution were injected into the kidney thrice daily while the catheter was in position. The urine collected through the catheter from the right kidney was at first turbid and alkaline, with a specific gravity of 1,005. The quantity varied from 40 to 60 ounces *per diem*. The amount passed *per urethram* during the same period varied from 12 to 40 ounces, was quite clear and acid and its specific gravity was 1,020. Toward the end of the 10-day period, the urine from the right kidney showed marked improvement. The albumin, which formed at first a fairly dense cloud, had practically disappeared, and the turbidity had almost cleared up. At the time of his return home, on May 11, 1916, *i.e.*, five weeks after the operation, the mixed bladder urine was macroscopically clear.

Epicrisis.—Ureteral fistula and stricture are, I believe, much more common sequelæ of uretero-lithotomy than perusal of the literature would lead one to suppose. I have seen a number of strictures of the ureter after these operations. This would seem especially liable to occur where suppuration has taken place. It could probably be entirely obviated

[1] Read at a Meeting of the New South Wales Branch of the British Medical Association on May 26, 1916.

by routine ureteral catheterization after the operation. When a urinary fistula persists at the end of the first week, a ureteral catheter should, as a rule, pass without any difficulty in the absence of a pre-existing stricture. The longer expectant treatment is continued after this, in the hope that the fistula will close spontaneously, the less likely is it that a catheter will be able to pass, as, in these cases, there is a descending ureteritis and peri-ureteritis, which is likely to cause total occlusion of the ureter. The experience gained in several cases referred to me at varying periods after operation, in which a urinary fistula had persisted for several weeks and had closed spontaneously, would suggest that such fistulæ healed in the majority of cases by total occlusion of the ureter, with atrophy of the kidney, or after the nephrectomy, which will commonly be required by the subsequent infection. It is, of course, quite common for a minimal amount of urine to pass along the drainage track for the first few days, and for clean healing to ensue subsequently. When anything more than this occurs, I believe we will be doing the best thing for our patients by tying in a ureteral catheter, to be retained till the healing is complete.

(ii.) Extensive Ureterocele with Vesical Calculus.

T.C., æt. 36 years, miner, was referred to me on February 16, 1915, with a history that he had been suffering from digestive disturbance and right-sided abdominal pain for about four years. He had had a gastro-enterostomy performed in a hospital in this city three years ago. For the past two years he had had, in addition, intermittent attacks of hæmaturia and from time to time the urine had been turbid from pus. *Bacillus coli communis* had been found in pure culture on several occasions. For the past six months he had had repeated attacks of vesical tenesmus, the pain recurring with such frequency as to incapacitate him completely from all manual labour. Numerous X-ray and cystoscopic examinations had been made within the last twelve months, and a diagnosis of essential hæmaturia, with cystitis, had been recorded. I referred him for further radiographic examination. A very dense shadow was found in the region of the bladder. On February 26, 1915, I found on cystoscopic examination a round yellowish-white calculus, about the size of a pigeon's egg, lying free in the bladder. Projecting from the site of the right ureteral orifice was a fleshy mass, about two inches long, and as thick as the thumb. It was covered with normal mucous membrane, and had an opening on its upper surface (see Fig. I.) into which, after some manipulation, a catheter was inserted. The left ureteral orifice was normal. The rest of the bladder, especially in the trigonal area, showed the signs of chronic irritation and inflammation. The indigo-carmine excretion was deficient on the right side and normal on the left. The urine from the right kidney was slightly turbid, while that from the left was clear. Both yielded a free growth of *bacillus coli communis* and a considerable number of pus cells. Abdominal examination elicited marked tenderness in the right iliac region. Neither kidney was palpable. No other abnormality was detected. The diagnosis was therefore made of vesical calculus, prolapse of the right ureter and bilateral pyelitis. The tenderness over McBurney's point was very suggestive of appendicitis. On March 3 the stone was extracted by supra-pubic cystotomy. The prolapsed

Fig. I.

Case II.—Composite Cystoscopic View, showing Prolapse of the Right Ureter (Ureterocele) and Vesical Calculus.

ureter was felt to be firm and fleshy, and was not interfered with at this time. After this operation the bladder symptoms disappeared, but the tenderness in the right iliac region persisted. The patient, however, was quite satisfied with the improvement in his condition, and gained in weight rapidly. He left the hospital in fourteen days, and returned to his home in the country one month after the operation. Three months later he reported himself again, on account of the tenderness in his right side, which he said was constantly present and rendered him unable to follow his occupation regularly. Cystoscopic examination was carried out on July 10. It was then seen that the ureterocele had become reduced to less than half its previous size. There were still some pus and colon bacilli in the urine from the right kidney; that from the left was clear of pus and sterile. The right kidney and ureter had a capacity of 30 c.cm. (about 1 ounce).

On July 13, a median subumbilical incision was made and the peritoneal cavity opened. The right ureter was seen to be considerably dilated, and an enlarged, chronically-inflamed, bulbous appendix was removed. The peritoneum was then sewn up, and the bladder opened. The ureterocele was slit up to its base on the upper surface, which consisted only of mucous membrane. The lumen was much dilated and the orifice relatively constricted. The bladder was sewn up without drainage. The patient had a smooth convalescence. The tenderness disappeared entirely. Symptomatically, the cure was complete, though there was still a scanty growth of *bacillus coli communis* in the bladder urine at the time of his discharge, fourteen days later. He has resumed his work as a miner. In a letter received from him six

months after the operation, he informed me that he felt very well, and was able to do a full day's work, "though occasionally troubled with a slight ache in the right kidney."

Epicrisis.—The prolapse of the ureter in this case was evidently caused by extrusion of the stone from the lower end of the ureter, the passage of the stone into the bladder being ultimately due to ulceration through the upper surface of the prolapsed ureter, as evidenced by the absence of fibrous and muscular coats in this situation. Prolapse of the ureter of a slight grade is not an uncommon cystoscopic finding. It is not necessarily of pathological import. Cystic dilatation or massive prolapse, as occurred in this case, is usually associated with stone or stricture at the uretero-vesical junction. Several illustrations of this rare condition appear in text-books of urology, but few of such an advanced grade as was present in this case.

I was unable to ascertain what were the pathological indications for the gastro-enterostomy which had been performed four years before, but the patient thinks that he derived some permanent alleviation of his symptoms therefrom. It is interesting to note how the course of events disproved the diagnosis of essential hæmaturia, which had been based on an incomplete examination of the urinary system. It is quite evident that a ureteral or renal calculus was missed by both the radiographer and the cystoscopist. Neither ureteral catheterization nor pyelography had been performed. With the modern improvements in diagnostic methods, the so-called essential hæmaturia is rapidly disappearing as a clinical entity. The histories of this case and of the preceding one prove the fallacy of placing too implicit reliance on the X-ray diagnosis in urinary diseases. Reliable statistics reveal that 15% is a moderate estimate of the frequency of stones missed by X-rays, whatever be their chemical composition. In this case the stone was a very dense one, consisting mainly of carbonate of lime.

(*iii.*) Two-Stage Prostatectomy.

G.W., æt. 64 years, a chemist and chronic alcoholic, was seen in consultation in a private hospital on February 19, 1916. He was suffering from complete retention of urine of seven days' standing. He had been catheterized three times daily during this period, and refused to submit any longer to catheterization. After an injection of 2 drachms of 5% novocaine solution, he, however, permitted the passage of a rubber catheter. It was proposed to tie this catheter in. Very little urine flowed, and it was deeply stained with blood. The bladder reached almost to the umbilicus, and was evidently filled with clot. The patient was suffering intense pain, and insisted on the withdrawal of the catheter. The urine had a specific gravity of 1,005 at the beginning of the attack, and contained a trace of albumin. There had evidently been a considerable amount of residual urine of long standing. He was now in a uræmic condition, and was extremely restless. His temperature was 99.4° F., his pulse-rate 124 and his respiratory rate 34. His tongue was dry, brown and furred. He complained of intense thirst and of frontal headache. He therefore presented a very bad operative risk. At 9 p.m. on February 19 I did a suprapubic cystotomy under "anoci-association," and sewed in a glass drainage tube, after a large quantity of old and recent blood clot and urine had been evacuated. The patient became very excited 24 hours after the operation, and it required considerable restraint to prevent him from pulling out the drainage tube. An injection of morphine soon quietened him. During the following three days he secreted only 10 to 15 ounces of deeply blood-stained, albuminous urine each day, despite the taking of large quantities of liquid. There was little or no improvement in his general condition during this time. After the third day, however, he picked up gradually, and by the fourteenth day was in comparatively good condition, The amount of urine ranged between 70 to 90 ounces a day. It had a specific gravity of 1,008, contained a cloud of albumin and a moderately heavy deposit of pus. The prostate was removed through the existing fistula on March 3, after injection of the prostatic urethra and capsule with novocaine solution. A large trilobed prostate was enucleated. There was total absence of shock, the pulse-rate being under 80 at the end of the operation. He had a very smooth convalescence, and was able to leave the hospital 4½ weeks after the first operation, with the suprapubic wound almost healed and all the urine passing freely *per urethram*.

Epicrisis.—This case is described in some detail, not because there was anything very exceptional about the recovery, for recoveries of this kind are met with remarkable frequency in this branch of surgery, but because I desired to draw attention to the value of the two-stage operation in these old prostatics. It is tolerably certain that this patient would have succumbed if the prostatectomy had been performed at the first operation. Numerous papers have appeared recently in the various surgical and urological journals, advocating the performance of the two-stage prostatectomy as a routine in all cases. The mortality, which, in skilled hands, at present stands at about 8% for all cases, would doubtless be still further reduced by the general adoption of this method. If glass tubes were used for drainage, Michel clips for the skin, to be removed on the fourth day, and if no through-and-through sutures were inserted, the skin would, as a rule, be clean and dry, the drainage track granulating nicely for the second part of the operation and the patient's stay in hospital would not be unduly prolonged. The second part of the operation may be performed from the fourth to the tenth day, or even later, according to the local and general condition of the patient.

It will frequently be found that the secondary prostatectomy is attended with less post-operative reaction than the preliminary cystotomy. Within the first few days of the cystotomy it is quite common for a mild or even a severe uræmic condition to develope. This is indicated by decrease in the amount of urine, increase in the amount of albumin, hiccough, headache, thirst, vomiting, and so on. These symptoms usually pass off in a few days.

The prostate can then be removed with very little fear of their recurrence, the urinary balance having become established in the meantime.

The average increase of the stay in hospital will probably not exceed from seven to ten days. In the life of an old man this is surely a small price to pay for the increased factor of safety.

(*iv.*) Bilateral Renal Decapsulation for Post-Eclamptic Suppression of Urine, with Recovery.

M.T., married, æt. 19 years, was sent to the South Sydney Women's Hospital on June 21, 1914, in the twenty-sixth week of her first gestation. She was suffering from albuminuria and generalized œdema. On admission, the urine contained 0.6% of albumin (Esbach). There were no casts or other abnormal elements at this time. The urine was considerably reduced in amount, but the actual quantity could not be measured, on account of the free catharsis which had been induced. At the end of seven days the albumin had diminished to 0.1%, and the amount of urine had increased to over 70 ounces per diem. The specific gravity was 1,015. Fourteen days after admission the urine was free from albumin and the œdema had disappeared. At her own request the patient was allowed to return home. Contrary to advice, she was delivered by an untrained midwife of a premature, macerated fœtus seven weeks later. On the seventh day of the puerperium she had several fits. She was re-admitted to the hospital in a state of eclampsia, with generalized œdema. The urine was loaded with albumin, pus and blood. The lochia were offensive, the temperature was 103° and the pulse-rate 132. She made great complaint of pain in the right kidney, which was much enlarged. Much offensive material and what looked like a succenturiate placental lobe were removed on the day of admission by digital exploration and irrigation of the uterus. The general condition improved immediately, and there were no further convulsions, but the urine remained scanty and deeply stained with blood for 21 days. The hæmaturia, pain and tumour raised the suspicion of a renal neoplasm. This was, however, considered to be improbable in view of the negative findings during the pregnancy. The patient was discharged a month after admission against advice, as there was still some albumin and pus in the urine. The infecting organism was the *bacillus coli communis*. Numerous epithelial and blood casts were present in the urine.

Ten days later she was again admitted to hospital; this time in a semi-comatose condition. She had not passed any urine for 48 hours. Two drachms of blood-stained urine were withdrawn by catheterization. The blood pressure was 190, the temperature 99.4°, and the pulse-rate 132. Despite venesection and the usual remedies the coma gradually deepened. There was no further secretion of urine during the 36 hours following her admission. The right kidney was still readily palpable, though it was smaller than at the time of her discharge from hospital. The condition appeared to be absolutely hopeless. It was decided after consultation with the other members of the staff to perform a bilateral renal decapsulation as a last resort. This was carried out on September 29, 1914. The left kidney was first exposed after some little search. It was scarcely larger than a walnut, and was definitely lobulated. It stripped readily, and in other respects had a normal appearance. The ureter was of normal size. The wound was sewn up without drainage. The right kidney was then exposed, and was found to be more than twice the normal size. It was deeply engorged, tense and of a purplish hue. It was much scarred and indented along its convex border, where it was densely adherent to the fatty capsule. It gave the impression of being semi-cystic and was evidently much dilated. There was marked surrounding œdema. The fibrous capsule stripped off with difficulty. This was followed by free oozing of blood. No attempt was made to control the bleeding. A large rubber tube reaching as far as the kidney was inserted and the wound closed around it. The operation lasted 45 minutes, and the patient was no worse at the end than at the beginning. A very small amount of ether had been administered by the open method, as the patient was unconscious when brought into the theatre. Glucose solution was administered by proctoclysis immediately after the operation. The condition remained practically unchanged for 12 hours. During this time there was copious oozing of blood and serum from the tube in the right loin. No urine was obtained by catheterization, and none was passed. Six hours later, *i.e.*, 18 hours after the operation, six ounces of highly coloured, blood-stained urine were withdrawn by catheter. The specific gravity was 1024, and it contained 0.4% of albumin. From this time onwards the secretion of urine gradually increased. During the following 24 hours 44 ounces were collected, and a further quantity was lost during defæcation. The patient recovered consciousness 36 hours after the operation. The progress after this was rapid. Both wounds healed by first intention, the tube having been removed from the right kidney region on the third day. The patient left the hospital on the 21st day. She was secreting 56 ounces in 24 hours; the urine was free from albumin, contained some pus and *bacilli coli communis*, and had a specific gravity of 1020.

I heard no more from her until December 14, 1915, *i.e.*, 15 months later. I then received a message to the effect that she had been delivered of a living full-term child "without any fuss or excitement by her midwife friend." Later on she brought her baby to the hospital as an exhibit, and I had an opportunity of seeing her then. She looked and felt well, but would not permit an examination.

Epicrisis.—This case cannot of course be considered to be one of eclampsia pure and simple, as there was in addition a marked grade of pyelonephritis of the right kidney. It is noteworthy that the hypoplastic left kidney was quite normal in external appearance, apart from its diminutive size and lobulation, and its capsule stripped off quite easily. The morphology of the kidneys found in this case is a comparatively rare one.

The hæmaturia, which continued for three weeks in this case without remission, whether as a result

of the pyelitis or of the pregnancy-kidney, or of both combined, is remarkable on account of its persistence and its severity. The urine throughout was deeply stained with blood. In the experience of a large number of cases of *pyelitis gravidarum* and of albuminuria of pregnancy I have seen only one case to compare with it. This patient had a bilateral bleeding pyelitis which persisted for one month. It ceased immediately after ureteral catheterization—perhaps merely a coincidence.

In previous communications I have made frequent reference to the value of prolonged retention in the kidney of the ureteral catheter in cases of severe *pyelitis gravidarum*. This procedure was not followed in the case detailed above, as the kidney was becoming progressively smaller, and the general condition was improving steadily, in spite of, or perhaps aided by, the hæmorrhage, but chiefly in consideration of the condition of uterine sepsis which was present.

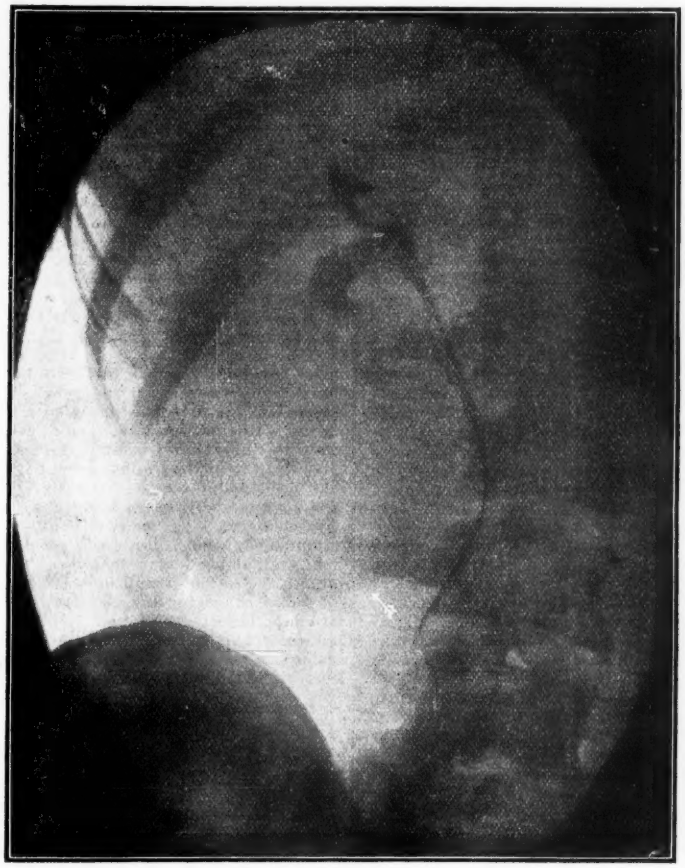

Fig. II.

Case V.—Hypernephroma of the Left Kidney. Pyelo-ureterogram, showing great enlargement of the lower pole of the kidney, with displacement of the upper ureter inwards over the bodies of III. and IV. lumbar vertebræ, justifying the pre-operative diagnosis of malignant neoplasm of the kidney.

(r.) Nephrectomy for Hypernephroma.

W.W., a dental mechanic, æt. 50 years, was referred to me by his medical adviser on March 14, 1916, on account of hæmaturia of two days' duration, accompanied by vesical tenesmus due to passage of clots. The previous history was unimportant, and there was no record of any past lumbar or abdominal pains or antecedent urinary trouble. When I first saw him the hæmaturia had just ceased. He was a well-nourished man in good general condition, the only abnormal findings being some tenderness and an indefinite fullness in the left lumbar region. The bladder urine was devoid of abnormal constituents. An X-ray examination revealed an indefinite rounded shadow in the left side of the abdomen. On cystoscopic examination I found a normal bladder and a large blood clot protruding from the left ureter. This was readily displaced, and was followed by a gush of dark blood. Clear urine was withdrawn by ureteral catheterization from the right kidney and slightly blood-stained urine from the left kidney. The indigo-carmine test was normal on both sides. The capacity of each kidney 10 c.cm. A pyelogram (*vide* Fig. II.) was taken of the left kidney after the injection of 7 c.cm. of a 15% emulsion of silver iodide. A beautiful demonstration of a renal neoplasm was obtained, and the pre-operative diagnosis of malignant tumour of the lower pole of the left kidney was made. On March 15, 1916, five days from the first onset of symptoms, the left kidney was removed, with its surrounding fatty capsule. The entire mass measured ten inches in length. The upper third was composed of normal kidney tissue, while the lower two-thirds contained a well encapsuled, semi-cystic, breaking-down tumour. Professor Welsh kindly examined it, and reported it to be "a typical hypernephroma."

Convalescence was rapid, and the wound healed *per primam*. The patient has now returned to work, and is apparently well. The ultimate prognosis is doubtful, as only 10% of these cases show freedom from recurrence after five years.

Epicrisis.—The interesting feature of this case is the entire absence of symptoms until within five days of the operation. This is all the more remarkable, since a large breaking-down tumour was present in the kidney. Even then the symptoms were so slight that the patient would probably not have submitted to the necessary examinations and subsequent operation, despite urgent representations, but that a relative had recently died from an inoperable malignant disease of the prostate. This case illustrates the necessity for prompt investigation of even

a comparatively mild case of hæmaturia. The investing capsule in one place was exceedingly thin, and doubtless if any time had been wasted it would soon have given way. The renal veins in this case were free of clot and growth as far as could be determined by the naked eye. The outlook, therefore, would appear to be rather more favourable than usual.

Reviews.

THE ADMINISTRATION OF ANÆSTHETICS.

The second edition[1] of the manual of surgical anæsthesia, written by Mr. Bellamy Gardner, has been enlarged by the addition of chapters dealing with the methods of producing spinal analgesia, with the induction of anæsthesia by the infusion or by the insufflation of ether and with the system of anoci-association. The cardinal objects of the original edition are preserved. It still emphasizes the importance of maintaining the free passage of air along the airways as the basis of successful administration. The principles, upon which the art of giving anæsthetics are founded, are discussed, and complete accounts are given of the methods by which the art is developed. This book deals almost exclusively with the practical side of the subject. The opening chapters treat of the duties of the anæsthetist, the preparation of the patient, the choice of the anæsthetic, the signs of anæsthesia and the effects of pathological conditions on the induction. The author gives clear directions on these matters. He gives some details about the uses of nitric oxide, ether, chloroform and ethyl chloride. Special chapters describe the use of anæsthesia for operations for adenoids, for intranasal surgery, for abdominal operations, for rectal surgery, for the examination and treatment of affections of the bladder and for operative proceedings through the vagina. Some useful information appears under the heading of the treatment of emergencies. The duties of the nurse during after-treatment are discussed in detail.

In his account of general anæsthesia, the author takes the position that the corneal reflex should not be abolished in safe anæsthesia. Whatever may be the conditions in London, the third stage of anæsthesia is not reached in Australia until this reflex is abolished. It has been universally taught in this country that the absence of the corneal reflex indicates the onset of surgical anæsthesia. Many surgeons expect a further degree of anæsthesia, with complete muscular relaxation. With care, such deep anæsthesia can be safely produced.

The book contains a number of plates which illustrate the proper position of the patient in regard to adequate ventilation of the lungs. Many figures of useful types or apparatus are inserted into the text. Medical students and medical practitioners will find few works which give a better account of this branch of the art of medicine.

THE NOSE AND THROAT.

Coolidge, of Harvard University, has compiled a useful handbook on diseases of the nose and throat.[2] The usefulness of such a book is limited by its size, but this author has succeeded in bringing before the notice of the reader many essential points in diagnosis and in treatment. Dogmatic statements are of greater use to the student and practitioner than are the long dissertations published for the specialist's perusal, and Coolidge has made this point well. He hardly attempts to describe with any detail the examination of patients, rightly maintaining that this can be learned only by actual contact with patients, always assuming a painstaking and sympathetic instructor is at hand.

A special feature is the chapter on clinical history, which is too often a breach in the armour of the specialist. The chapter on the common cold smacks of the student textbook on surgery—or is it medicine? In dealing with the tonsils the Professor has put before the student a great deal of up-to-date information, and he makes out a strong case for thorough extirpation of the tonsil where surgical intervention is decided upon. Sluder is rather grudgingly mentioned, and the work of Whillis and Pybus does not appear as such. As to anæsthesia, the author seems firmly wedded to the use of ether, whether with preliminary injection of morphine and atropine he does not state, and does not mention chloride of ethyl for short anæsthesia. The chapters on the nose are well written and concise, and here again the author lays stress on the necessity of larger books for reference. The whole work will be useful indeed to those for whom it is written.

A MEDICAL DICTIONARY.

One of the chief reasons why but few compilers have attempted to produce extensive medical dictionaries is that the number of words in use at present is very large, and include a high proportion of those which have been introduced within the past few years. To be of practical value, a technical dictionary should contain every word in use, whether rare or common. The essentials for a work of this description are therefore completeness, accuracy and good definitions. One of the best of all medical dictionaries yet published in the English language is that compiled by Professor W. A. Newman Dorland.[3] This work has now reached its eighth edition, although the first edition did not appear until 1900. Many of the editions were reprinted in the interval before the succeeding edition. These facts testify to the value of the work and to the confidence placed in it by the English-speaking medical community. The present edition contains numerous additions to the text of the preceding one. Nine additional pages have been devoted to special tests. The table as it now stands is probably the most complete that has yet been published. Other additions have been made, with the result that the book has been increased by 30 pages and contains several hundred new terms. English readers should not lose sight of the fact that the dictionary is an American one and that, consequently, the orthography accepted in America as correct has been adopted systematically. Not only are words like œsophagus spelt with an initial "e" to represent the Greek οἰ and words like "æstivo" spelt "estivo," but the spelling adopted by the editors of the British Pharmacopœia of many alkaloids has been altered by the elision of the terminal "e." The definitions given are accurate, encyclopædic in character and clearly worded. In many cases they are supplemented by illustrations which enhance their value not inconsiderably. A word of praise is due to the publishers, Messrs. W. B. Saunders Company, for the fine printing, excellent colour-work and good binding.

SIR WILLIAM RAMSAY.

The news of the death of Sir William Ramsay, K.C.B., LL.D., D.Sc., M.D., Ph.D., F.R.S., F.C.S., the eminent chemist, until 1913 Professor of Chemistry at University College, University of London, and since then Emeritus Professor, was received in Australia on July 24, 1916. Sir William's achievements in chemistry have become a household word throughout the civilized world, and the list of countries and cities that have honoured him by conferring honorary degrees and by electing him honorary member of learned societies and of academies covers the whole of Europe and includes both the United States and Central America. He was a Commander of the Crown of Italy, an *Officier de la Légion d'Honneur*, and a corresponding member of the Institute of France. His publications were very numerous. Among his more important writings, his three text-books, his contribution to our knowledge of the constituents of the atmosphere, which included the discovery of argon, helium, neon, krypton and xenon, his account of the transmutation of radium into helium and the result of his studies into the molecular surface-energy of liquids may be mentioned. He was one of the most popular professors at University College.

[1] A Manual of Surgical Anæsthesia, by H. Bellamy Gardner, M.R.C.S., L.R.C.P. (Lond.); Second Edition, 1916. London: Baillière, Tindall & Cox; Demi 8vo., pp. xii., 220, with 8 plates and 36 figures in the text. Price, 7s. 6d. net.

[2] Diseases of the Nose and Throat, by Algernon Coolidge, A.B., M.D.; 1915. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; 12mo., pp. 360, with illustrations. Price, 8s.

[3] American Illustrated Medical Dictionary (Dorland), a new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Eighth Revised Edition. Edited by W. A. Newman Dorland, M.D. Large octavo of 1135 pages, with 331 illustrations, 119 in colours. Containing over 1,500 more terms than the previous edition; 1915. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little. Flexible Leather. 21s. net.

The Medical Journal of Australia.

SATURDAY, JULY 29, 1916.

National Insurance

The high incidence of incapacitating disease and accident is, as we pointed out in last week's issue, a matter occupying the immediate and careful attention of the Federal authority. In his report on an analysis of the certificates on which invalidity pensions have been paid, Dr. Cumpston, the Director of Quarantine, has come to the conclusion that a considerable proportion of this invalidity is preventable, and that the most promising means of ensuring that the individuals of the community would receive adequate medical treatment calculated to prevent the onset of permanent disablement would be a comprehensive scheme of national insurance.

It may be admitted at the outset that the frequency of avoidable results of infective and other diseases and of accidents is too high, and that a considerable reduction of suffering and permanent disablement could be prevented. It may further be assumed that the adoption of recognized methods of prophylaxis would result in a large saving of lives and avoidance of illness. Epidemics of diphtheria, enteric fever, scarlatina and other infective processes could be limited by a more thorough search for foci of infection and a more rigid exclusion of these sources when found than is practised in any part of the Commonwealth at the present time. Attention has been drawn in these columns to the primary object of notification of infective diseases, namely, to discover the source of infection and to cut it off. Other known epidemiological measures could be employed more effectively than is done to limit the extent of diseases not notifiable, and also diseases which, although notifiable, are of long duration and therefore cannot be traced readily to one source. Apart from the directly preventable disease, or perhaps it would be more correct to express it, apart from those diseases which respond to present-day preventive measures, there is still a large quantity of invalidity which could be avoided by the better and more universal application of treatment. The profession is faced with the problem of suggesting some means by which medical treatment could be extended to the whole population. The inference of the figures revealed by Dr. Cumpston is that a large section of the community does not receive adequate medical attention for the common affections. What are the facts? That 20,000 persons, out of a total of five millions, have become incapacitated by illness or accident in the course of less than five years, has been put forward as one indication for a remedy. A careful study of the figures has revealed the fact that of this 20,000 not more than 7,000 are the results of what is regarded as preventable disease. It would be a fair estimate to assume that not more than 10,000 of the cases were amenable to treatment in the early stages of the various diseases. It still remains to be shown that no medical treatment was applied in the case of these 10,000 sufferers at the stage when it might have yielded appreciable results. It must further be shown that, if some of these persons received medical treatment, the reason for the unsatisfactory result lay in the disease, and not in the amount of skill exhibited. It would be useless to initiate a scheme of national insurance with medical benefit if the persons whom it was intended to benefit were already in receipt of medical treatment, unless some guarantee were forthcoming that the standard of the treatment could be raised. To return to the search after facts, reference may be made to the extent of lodge practice within the Commonwealth. It will be remembered that when Mr. Lloyd George introduced his famous Bill into the House of Commons, the most powerful argument advanced in favour of its adoption was that of the 14,700,000 persons whose income did not reach £300 *per annum*, less than 7,000,000 had provided for themselves by joining a Friendly Society, Insurance Club or Provident Society against the cost of sickness. Approximately 10% of the population of Australia belong to the Friendly Societies. It has not been shown that any considerable number of persons with means too small to enable them to meet a doctor's bill remain outside the Lodges. It would therefore appear that the provi-

sion of medical treatment for the wage-earner and for those with small incomes exists in the Commonwealth. Unless it can be shown that the form of treatment to be accorded by medical practitioners under an insurance scheme would be superior to that accorded at present by lodge doctors, the necessity for the introduction of the insurance scheme must be challenged.

The British Act has proved without doubt that national insurance may be of the greatest value to a country. The probable value of this expedient is in direct proportion to the extent of the poverty of the community. Where pauperism abounds, national insurance on a compulsory basis is the sovereign remedy. In Australia, extreme poverty is rare, and such as exists could be remedied without recourse to so drastic a measure. It is not on this score that the suggestion of its introduction is based. The tendency of the age is toward nationalization. Certain commodities are to be dispensed gratuitously to every citizen. The capability of paying is not to be the determining factor whether the individual can command the desired commodity. But it would seem as if the institution of a national medical service composed of paid officials to treat the community were too risky an undertaking to find favour generally in political circles. The authorities are seeking some means of obtaining control over the medical profession in their relation with the public. There are ample signs of unrest in connexion with the conditions of lodge practice. In New South Wales the organization of the medical profession has led the community to realize that doctors are determined to resist an oppressive policy of third parties. The alternative for nationalization which finds favour is a scheme of medical and sickness benefit, such as has been provided in the British Insurance Act, on a non-contributory basis. By this means the Federal Government would become the paymaster, and would claim the right to call the tune. Politicians urge that it is no business of the members of the medical profession to interfere with a purely political proposition of this kind. But they must remember that objection to this policy would not be undertaken on the ground of objection to the sociological scheme, but because it would rob the medical practitioner of his independence, and because it would involve the interposition of a third party between the patient and the doctor.

The medical profession in Australia has now to consider the position and to formulate a policy. No time may be lost, lest a measure be introduced into the Federal Parliament before the reply is ready. The lesson of the British Medical Association in Great Britain and the National Insurance Act is still fresh in our memory. There are three alternatives. The first is to resist national insurance, and, if necessary, a non-contributory scheme. The second is to accept national insurance, on the ground that, under this scheme, at least, the medical practitioner stands in the same relationship to the patient as he does under the conditions of lodge practice. The third alternative, that of accepting the control of Governments in matters of medical practice, needs scarcely be mentioned.

There is no real necessity for the introduction of any extension of the system of contract practice. One-tenth of the population already claims its advantages. Surely this is enough.

WHENCE COME ANTIBODIES?

Investigators who have endeavoured to ascertain the seat of formation of antibodies have, so far, achieved little success. Antisera, possessed of a high degree of antitoxic, bactericidal, hæmolytic or agglutinative power, are readily prepared by a great variety of methods for immunizing animals. These properties of antisera are regarded as due to the presence of certain chemical entities which are produced as a consequence of the introduction of antigen. The evidence that is available appears to give a sure foundation to this humoral view of the nature of antisera. Despite the labours of a great army of experimentalists inspired by the hypotheses of a greater number of speculators, little advance has been made towards the discovery of the place where these remarkable anti-substances are manufactured. It is true that some experiments have been recorded which suggest that the leucocytes yield these bodies by their disintegration during the coagulation of the blood, but other experiments have been published which are not in harmony with this conclusion. We read much of the action of antigen on the cells of the tissues, of its anchorage to receptors and of its influence on the formation of specific side-chains. No attempt is, however, made to declare what cells and what tissues play a part in this mystery.

Antibodies make their appearance not only in the blood serum but also in other fluids obtainable from the body. They are found in the lymph which can be expressed from the tissues and in the lymph which traverses the thoracic duct. They can be de-

tected in the serous fluids which are collected from the pericardial, pleural and peritoneal cavities. They have been noted in the synovial liquids which lubricate the articular cartilages of the joints. They have been discovered in the aqueous humour filling the anterior chamber of the eye and in the cerebro-spinal fluid which serves as a cushion for the nervous structures of the brain and spinal cord. Does this widespread distribution of the immune substances imply an equally widespread formation? Once the animal organism has acquired the capacity of yielding a particular antiserum this habit can be readily induced subsequently by appropriate stimulation. The subject of enteric fever who has formed an agglutinin for the *bacillus typhosus* during the illness will, some years later, form much agglutinin if treated with a typhoid vaccine. Long after the body has lost every trace of agglutinin, it retains its ability to respond effectively to the provocation of the typhoid antigen.

Some valuable experiments have been performed by Hecht and Luckhardt[1] at the Hull Physiological Laboratory of the University of Chicago. During the last six years research work, carried on in this Laboratory, has been devoted to the origin of lysins, agglutinins and opsonins. Particular attention has been given to the concentration of these antibodies in the accessible fluids of the experimental animals. It has been shown that a definite order of decreasing concentration is followed by the body fluids charged with these different antibodies. In conformity with a general rule of concentration of antibodies, two explanations of the presence of antibodies in the fluids of the body are possible. The antibodies may be produced in the blood or reach the blood from an extra-vascular source, and then pass into the lymph and other fluids of the body, or they may be formed in the lymph or in extra-vascular cells and poured into the lymph whence they are distributed to the rest of the body

With these alternatives in their minds, Hecht and Luckhardt have studied the distribution of antibodies in dogs passively immunized. The passive immunity has been conferred by cross-circulation with a dog highly immune to some antigen. Canulæ, smeared with paraffin, have been inserted into the central ends of the carotid artery of each animal and connected to the peripheral ends of the severed carotid arteries of the other dog. This method has been adopted to avoid any plethora in the recipient which might occur with transfusion of blood, and to prevent any change in blood-pressure during the transfer of blood. The passively immunized dog has remained normal except it has given one half of its blood to the immune dog and received an equal amount of immune blood in exchange. Ten minutes has been allowed for this interchange The antigens used for immunizing the dogs have been the corpuscles of the rat and goat. The concentration of antibodies in the blood of the recipient has remained constant for ten hours after the cross-circulation has been terminated. In one or two hours the antibody has reached its characteristic concentration in the lymph of the thoracic duct and in the lymph from the tissues of the neck. No change in concentration has occurred in the subsequent eight hours. Antibodies thus pass rapidly from the blood to the lymph by direct exchange of fluid, so that characteristic concentrations are readily established. These concentrations have been observed to bear the same numerical relations to each other as in the actively immunized dogs. This observation is in accord with the hypothesis that the distribution of antibody is accomplished by the same agencies in both types of immunity.

These experiments lend no support to the view that antibodies originate in the tissues, are emptied into the lymph spaces whence they pass to the blood, but they do not negative such a view.

[1] *American Journal of Physiology*, Vol. XL., p. 366, April, 1916.

VOLUNTEERS WANTED.

The Defence Department has been advised from time to time by Surgeon-General N. R. Howse, Director-General of Medical Services in Egypt, in regard to the need for officers for hospital, ambulance and regimental duty. Recently, the call has been chiefly for men to take up positions in the various base hospitals. We understand that many of the men who joined in 1914 should be relieved by others, and the authorities have difficulty in releasing them because there is still a marked shortage of surgeons. The men required are young and middle-aged men whose chief qualification, in addition to medical ability, is willingness to undertake any duty asked of them. The older members of the profession are not being sought at the present time, and it is stated that specialists are not required in numbers. The opinion has been expressed that a number of practitioners should come forward now, in order that their colleagues who have been serving for some time may return to Australia. This plan of temporary service is favoured by the authorities, and we feel convinced that this notice will have the effect of inducing men who have long been ready to "do their bit" to offer their services to the King and Empire.

In addition, medical officers are required for the Ambulances. The call on the Australian Army Medical Corps has been a heavy one within the past few weeks, and the authorities are looking ahead so that they may not have any difficulty in supplying the necessary medical officers. At times the call is given at very short notice, and it is often a practical impossibility to fulfil the demand. The members of the profession in Australia are asked to recognize this fact and to assist the Headquarters Staff by enrolling themselves in advance, in order that when the call comes the Director-General may be enabled to rely on a sufficient number of volunteers.

THE BRITISH MEDICAL ASSOCIATION (AUSTRALIA) MOTOR AMBULANCES.

The Secretary of the Federal Committee of the British Medical Association has received an official communication from the Department of Defence, informing him that the two motor ambulances which were presented to the troops have been allotted by the War Office for the use of the Australian Imperial Force abroad.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(32) Rosacea Keratitis and Marginal Keratitis.

F. H. Verhoeff draws attention to the central corneal lesions often associated with *herpes facialis*, and goes on to describe marginal corneal lesions of like neuropathic origin (*Archives of Ophthalmology*, March, 1916). They appear as round or irregular infiltrates beneath the surface, about a millimetre in diameter, and 1½ mm. from the limbus. Larger spots are made up by the fusion of several smaller ones. They stain by fluorescin, but seldom ulcerate. There may be much or little conjunctival congestion, but the cornea seldom becomes vascularized. These spots occur at the terminations of the conjunctival nerves in the cornea. In cases of rosacea of the skin there are sometimes infiltrates or ulcer of the cornea. In long-standing cases they repeatedly occur, and a pannus-like condition is produced. The author has regarded and treated rosacea keratitis as a form of neuropathic keratitis. If this be true, the condition results from impulses passing along the conjunctival nerves, and should be cured by incising the conjunctiva in the region involved. This the author has done in 15 consecutive cases with successful results. The conjunctiva is incised at the limbus with scissors for some distance beyond the limits of the corneal lesions. The incision is carried right down to the sclera, undermining the flap to a distance of 4 or 5 mm. The flap is then brought up to the corneal margin by means of two sutures, one at each end of the incision, as in the van Lint operation for cataract. Alcoholism and tea-drinking are common causes, perhaps indirectly from the chronic intestinal disturbance they set up.

(33) The Treatment of Trachoma, Vernal Catarrh and Pterygium.

A. E. Prince advises practitioners to buy a tank of liquid carbon dioxide from a soda-water manufacturer; a plumber can easily fit on the necessary attachments for use in the treatment of trachoma, vernal catarrh and pterygium (*Archives of Ophthalmology*, May, 1916). A 10% solution of cocaine, with adrenalin, produces sufficient anæsthesia for most cases. The ice, moulded to a convenient pencil shape, is applied to the affected area, the pressure being maintained at each spot for two seconds. There should be no sloughing. The application is repeated upon the appearance of new granulations. Daily treatment with tannic acid, copper sulphate and phenol in glycerine is also given, and the granulations are in some cases squeezed or crushed before the freezing. It is not necessary to apply the ice directly to the cornea for pannus. Cases are recorded showing the value of this form of treatment. The carbon dioxide snow was found to be very effective in removing the vascularity of pterygia, but surgical treatment was necessary to clear the cornea of adventitious tissue. Experience in two cases of vernal catarrh led the author to believe that good may be expected from this form of treatment.

(34) On the Declinations of the Vertical Meridians of the Retina.

Stevens, of New York, attaches great importance to the estimation and corrections of declination, especially when operative measures are undertaken for the treatment of heterophoria (*Archives of Ophthalmology*, May, 1916). Helmholtz found many years ago that the vertical meridians of his own eyes deviated from below upwards each 1¼°, or together 2½°, the horizontal meridians remaining exactly horizontal. Donders and others made similar observations. The author's investigations, however, have led him to the conclusion that the leanings of all meridians are uniform. If the vertical meridian leans out, the horizontal leans up at the medial side to an equal extent. Declinations must not be confused with torsions, which are normal and necessary changes for oblique positions of the eye. Declinations represent an anomalous position of the eye, with reference to the cranium. The patient is examined by means of the clinoscope. He looks in the primary position through two parallel tubes, at the test object. The test object is a disc with a dot as the centre and a pointer as radius. The pointer is brought to what the examined person regards as vertical. The deviation is then read off in degrees. Heterophoric conditions are in reality the manifestations of declinations.

(35) Anomalies of the Accommodation.

Duane has tabulated the accommodative power at the ages from 8 to 68, based on 12,000 measurements in 1,500 cases (*Archives of Ophthalmology*, March, 1916). In 170 cases were found anomalies of accommodation of several varieties. Insufficiency of accommodation may be intermittent or constant, and transient or persistent. It is fairly frequent, and was noted in 123 cases. It may be caused by undue rigidity of the lens, or to weakness of the ciliary muscle. Ciliary weakness may follow infectious disorders, intestinal toxæmia, and tonsillar and dental infections, nasal obstruction and anæmia. The symptoms are tiring and aching eyes, headache, blurred near vision, vertigo and other nervous manifestations. The treatment includes removing the cause, if possible; prescribing the correct glasses; and systematic exercise with the fine test object or sometimes with prisms. Gross failure or paralysis of accommodation is due to cycloplegic poisons or to syphilis; it is less often due to traumatism. Unequal accommodation occurs when one eye has ophthalmoplegia and the other is normal; but there are cases where both eyes are healthy, and there appears to be higher power of accommodation in one eye than the other, possibly due to unequal rigidity of the lenses. Accommodative inertia is the condition in which the patient changes from one accommodative state to another sluggishly or with difficulty. It probably indicates advancing sclerosis of the lens. Excessive accommodation of ciliary origin causes the patient persistently to exaggerate a myopia, or to reject a hyperopic correction. It is similar to the ciliary overaction produced by eserine. It may be associated with actual weakness of accommodation. It may be due to the lens being less rigid than usual, and may be termed delayed presbyopia.

(36) Divergent Concomitant Strabismus.

H. W. Wootton classifies the forms of divergent strabismus, with the accompanying refractive error, thus: (I.) Divergence excess; hypermetropia frequent; myopia rare. (II.) Convergency insufficiency; myopia frequent; hypermetropia rare. (III.) Divergence excess (marked) and convergence insufficiency; antimetropia frequent; bilateral myopia or hypermetropia rare. In divergence excess, the deviation exists only when the patient looks into the distance. He can be made to fix a near object. In convergence insufficiency the squint is more marked for near than for distant objects. When divergence excess and convergence insufficiency are both present, the squint will be evident for near and distant objects. Myopic correction for convergence insufficiency sometimes cures the squint; but hypermetropic correction for divergence excess seldom does any good. The operation should depend on the type of divergence present. The cases most frequently encountered are those of bilateral hypermetropia, with divergence excess; in these the best treatment is free tenotomy of both external recti, repeated if necessary. In cases of myopia with convergence insufficiency, if not cured by glasses, one or both internal recti should be advanced. When both divergence excess and convergence insufficiency are present, the external recti should be divided first.

(37) Pneumococcal Infection of the Eye.

In the case of intraocular infections it is necessary to depend upon indirect evidence to determine its nature. N. C. Ridley records the case of a medical man who was suffering from a long-continued attack of irido-cyclitis of doubtful origin (*The Ophthalmoscope*, May, 1916). The Wassermann reaction was negative, the urine sterile, and the blood count normal, but around the teeth, and in the post-nasal region, in the fæces and in the blood were found large numbers of pneumococci and streptococci. Tuberculin injections had previously been tried without success. A combined pneumococcal and streptococcal vaccine was administered, but failed to prevent repeated relapses. After an interval, a smaller dose was given, and it was found that the relapses were milder. Atropine and fomentations were also employed, and mercury administered, but it depressed

the patient and seemed to be of little benefit. The prognosis, on the whole, is hopeful. This was the only case of irido-cyclitis in which the author considered the pneumococcus as the cause. Another case is recorded by Browning.

LARYNGOLOGY AND OTOLOGY.

(38) Window Resection of the Larynx.

H. Lambert Lack has come to the conclusion that the ordinary method of operation for intrinsic malignant disease of the larynx through a thyrotomy wound carries with it several marked disadvantages (*Journ. of Laryng. Rhinology and Otology*, April, 1916). The chief of these disadvantages are that the surgeon does not get a good view of the interior of the larynx; that manipulation through the small opening is very difficult; and that hæmorrhage is difficult to control. He has therefore substituted for the ordinary thyrotomy an operation which he terms partial or window resection of the larynx. Tracheotomy is performed and the larynx is then opened by a median incision from the thyroid notch to the upper border of the cricoid ring, or, if necessary, through it. Retractors are inserted, and the two halves of the larynx are pulled apart very gently. The upper and lower limits of the disease are noted, in order that the level of the upper and lower incisions may be fixed. The next stage consists in dissecting off the perichondrium from the ala of the thyroid, and in dividing the cartilage and mucous membrane of the larynx above the level of the growth. This incision is carried back to a point beyond the posterior limits of the growth. The same is done below, and the flap is then pulled out, in order that the posterior incision may be made. When the posterior incision is completed, the growth, cord and underlying cartilage are removed in one piece. The surgeon obtains a free view of the parts during the whole course of the operation, and has ample room to apply pressure to the bleeding points. In this way blood can be prevented from entering the air passages, and one cause of septic pneumonia can be eliminated. A further advantage of the operation is stated to be that the patient is able to swallow perfectly after its completion. Consequently, another cause of septic pneumonia is dealt with. The author claims that healing is rapid, and that the after-results are excellent. He describes certain modifications which he has found useful in advanced malignant disease, and concludes by maintaining that the window resection is suitable to all forms of malignant disease of he interior of the larynx.

(39) Galvano-cautery for the Lower Turbinate.

G. Sluder describes his method of applying galvano-cautery to the lower turbinate (*Laryngoscope*, March, 1916). The technique is recommended for hypertrophy or intumescence of the soft parts covering the lower spongy bone. The clinical manifestations of these changes are chiefly nasal obstruction, with or without irritation of the Eustachian tube. He prefers cautery when only soft tissues have to be removed, because the wound usually bleeds less than when a knife is employed, and the reaction is considerably less. The turbinate is first anæsthetized and then the soft palate. The palate is then drawn forcibly forwards by a self-retaining hook and a fish-hook-shaped electrode is introduced cold in a horizontal plane through the mouth into the pharynx. The tip of the electrode is carried into the affected nostril, and the first lower curved incision is made from in front backwards. He then starts the posterior end of his antero-posterior incision, and lastly the upper curved incision. The electrode is then removed, and a straight tip electrode is inserted through the nostril from in front to the middle of the posterior incision. This tip is carried forward to the anterior extremity, and is then drawn downwards. In a diagram he illustrates the lines of the complete operation. From the posterior end of the turbinate an elliptical line runs forward for about a quarter of the length of the turbinate. The second incision is carried medially from behind forward, and joins the fourth incision, which is completed through the nostril. The third incision is a completion of the ellipse at the posterior end, while the fifth runs obliquely forward from a point above and just behind the anterior end to just below the fourth or medial incision. He points out that the cautery must be as hot as possible in order that rapid working may be achieved. It is therefore necessary to guard against accidental dislodgement of the tip. He makes and breaks the current frequently in order to prevent pain from the overheating of the bone.

(40) Atrophic Rhinitis and Tuberculosis.

Dan McKenzie has embarked on an extensive investigation, with the object of ascertaining whether there is any association between atrophic rhinitis and tuberculosis, and if such an association exists, of determining its nature (*Journ. Laryng., Rhinology and Otology*, May, 1916). In the first place he has examined the literature and his own records to fix the frequency of atrophic rhinitis among the tubercular, and of tuberculosis among persons suffering from atrophic rhinitis. Pulmonary tuberculosis was found *post mortem* in 68% of persons affected with ozæna. Manifest tuberculosis was discovered clinically in from 20% to 58% of ozænatous patients. The family history of these patients revealed the existence of tuberculosis in some member in from 46% to 90% of the cases. The von Pirquet reaction was positive in 80% of his patients under 15 years of age. The subcutaneous tuberculin test was positive in 94%. Some observers, however, have found pulmonary tuberculosis in but a small proportion of ozæna patients and others have recorded that in the majority the tuberculin test proved negative. Mackenzie sums up this part of the investigation by accepting some association between atrophic rhinitis and tuberculosis. The history of his ozæna cases teaches that the ozæna does not lead to tuberculosis. On the other hand, he has discovered evidence in support of the contention that ozæna is commoner among phthisical patients than among the general community. He deals to some extent with the ætiology of ozæna, and discusses the evidence in favour of the Abel-Loewenberg and the Perez bacilli being the causal organisms of the disease. He also gives some information concerning the results of bacteriological studies of the acid-fast bacillus of ozæna and comes to the conclusion that this bacillus is an attenuated form of the tubercle bacillus. He argues that ozæna resembles in many of its details certain "para-tuberculous" diseases, *e.g.*, lupus erythematodes and phlyctenular conjuctivitis. He therefore arrives at the final conclusion that ozæna, as seen in England, is a manifestation of tuberculosis.

(41) Tuberculin in Laryngeal Tuberculosis.

Hill Hastings (*Laryngoscope*, May, 1916) deals with the frequency of tuberculosis in the larynx, the clinical significance of this complication and the results obtainable by tuberculin. He has found that, in South California, 2.1% of his ear, nose and throat patients were suffering from tuberculosis of the larynx. In the Barlow Sanatorium, 5.1% of the patients had laryngeal tuberculosis. As a rule, the larynx is involved in the second or third stage of the pulmonary disease when the sputum contains numerous tubercle bacilli. Some exceptions, however, have been noted. After examining the situation of the tubercular involvement in the larynx and ascertaining the relative frequency of ulceration, he turns his attention to the progress of the laryngeal lesion. Of 38 sanatorium cases the laryngeal disease was progressive in 25. In the remaining 13 it was either apparently healing, arrested or healed. He has employed tuberculin in eight of his private patients, and although he recognizes that the number is too small and the results too much clouded by the effects of other agents employed to justify positive statement, he holds that the results are most promising. Five of the patients were still alive. Two had been healed for over two years, in two the lesions had become quiescent, and in one the general condition was excellent and the lesions were not troublesome. This patient was still under treatment. Three of the patients had died. In one the cause of death was hæmorrhage, and the laryngeal lesion was not progressive. In the second patient there was infiltration of the vocal cord and inter-arytænoid space, which had become smaller on treatment. In the third case the author states that, while the laryngeal lesion had not undergone a change as a result of the tuberculin treatment, this lesion did not play an important part in the course of the disease.

Public Health.

THE HEALTH OF WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending July 8, 1916:—

	Enteric Fever. Cases.	Diphtheria. Cases.	Scarlatina. Cases.	Pulmonary Tuberculosis. Cases.	Erysipelas. Cases.
Metropolitan	2	7	1	3	0
Rest of State	1	7	0	3	1

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health New South Wales, during the week ending July 15, 1916:—

	Metropolitan Combined Districts. Cs.	Dths.	Hunter River Combined Districts. Cs.	Dths.	Remainder of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	2	0	0	1	3	0	5	1
Scarlatina	51	3	0	0	43	0	94	3
Diphtheria	34	1	4	0	80	4	118	5
C'bro-Sp'l Menin.	0	0	0	0	4	1	4	1
Pul. Tuberculosis	23	13	0	0	†		23	13

† Notifiable only in the Metropolitan and Hunter River Districts.

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending July 16, 1916:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	87	5	65	1	152	6
Scarlatina	26	1	20	1	46	2
Enteric Fever	1	0	1	0	2	0
Pulmonary Tuberculosis	13	9	6	5	19	14
C'bro-Spinal Meningitis	18	—	11	—	29	—

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending July 15, 1916:—

Disease	No. of Cases.
Enteric Fever	5
Pulmonary Tuberculosis	5
Diphtheria	25
Scarlatina	9
Varicella	22
Erysipelas	1
Cerebro-Spinal Meningitis	1
Infantile Paralysis	2
Puerperal Fever	1
Malaria	8

THE HEALTH OF TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending July 15, 1916:—

Disease.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Diphtheria	3	1	18	22
Pulmonary Tuberculosis	1	0	0	1
Puerperal Fever	1	0	0	1
C'bro-Spinal Meningitis	1	1	3	5
Scarlatina	0	0	1	1

Naval and Military.

We regret to learn from the 186th casualty list, issued on July 20, 1916, that Captain R. L. Henderson has been wounded. In the same list it is announced that Captain R. F. Craig is ill in hospital.

Hospitals.

ST. VINCENT'S HOSPITAL, SYDNEY.

The Sisters of Charity have issued the usual annual report of the St. Vincent's Hospital, Sydney, in the form of a pamphlet covering 68 pages, including some excellent illustrations and some information in regard to the work achieved during the year 1915. A pious tribute to the memory of the late Dr. Odillo Maher forms a special feature of the publication.

In regard to the medical work, it appears that there were 134 patients in the Hospital on December 31, 1915, and that 2,978 patients were admitted during the year 1915. Of the total, 2,837 patients were discharged, 127 died and 148 were still under treatment at the end of the year. Eleven patients died within 24 hours of admission. Excluding these, the mortality rate works out at 3.7%. Of those discharged, 1% were unrelieved, 20% were relieved and the remaining 79% were cured.

A nosological table is published, setting forth the diseases treated, classified according to the Bertillon system, and giving the number of cases treated, discharged "recovered," "relieved" or "unrelieved" and of the patients who died. It would serve no useful purpose to summarize this return. A second table contains the nature of the operations performed during the year and the number of deaths in the operation cases. It is interesting to note that appendicectomy was performed 305 times without a death, and that 555 abdominal operations were carried out, with 6 deaths. There were 543 gynæcological operations. One patient died after the ventro-suspension had been performed. The total list covers 2,948 operations, and the total number of deaths was 8. The number of patients dealt with in the Outpatient and Casualty Departments is 26,162, and the number of attendances given is 61,246.

A new dispensary, to be known as the "Norman Shelley Dispensary," has been erected within the grounds of the hospital. The Sisters of Charity have been enabled to provide this much-needed addition through the generosity of the late Mr. Norman Shelley, who bequeathed £1,000 for the purpose. An appeal is being made to the generous public to increase the accommodation for the sick poor by adding a third storey to the Hospital. The suggestion has been made that this addition to the building should be regarded as a memorial to the New South Wales soldiers who lost their lives at the landing in Gallipoli, and to the heroism of the wives and mothers and sisters and sweethearts of the gallant dead of the Australian Army and Navy.

The work carried out in the various departments appears to have been considerable. In the Department of Pathology and Vaccine Therapy, Dr. P. E. Walton Smith and his staff have carried out a very considerable number of examinations during the year, and various vaccines have been prepared and administered to the patients. In Dr. E. Temple Smith's report reference is made to the close association between the Ophthalmic Surgeon and Pathologist, to the material benefit of the patient. The Massage and Electro-therapeutical Department is under the direction of Miss L. B. Milne. In this Department a number of wounded soldiers received massage. Dr. E. H. Molesworth records that the establishment of the evening clinics at the Royal Prince Alfred Hospital and the scarcity of salvarsan necessitating a regulation to the effect that patients would be required to bring salvarsan or one of the substitutes to the Hospital at their own expense, led to the marked diminution in the number of cases of syphilis attended to. In the Radium Department, Dr. Langloh P. Johnston treated 65 patients during the year. The affections for which radium were employed included rodent ulcer and raised vascular nævi. Inoperable malignant disease was not dealt with, on account of the small supply of radium available. In the X-ray Department, Dr. C. A. Ayres and Dr. J. G. Edwards have carried out a considerable amount of diagnostic as well as some therapeutic work.

The following members of the staff have given or intend to give their services to the Empire: Sir Alexander MacCormick, Drs. R. Scot-Skirving, A. Oswald Howse, H. Moran, J. Storey, C. Verge, H. C. E. Donovan, R. Davis, D. S. McKenzie, E. Pinhey, R. F. Hughes, H. Odillo Maher and G. Lane Mullins.

The Treasurers' report reveals an increase in expenditure, and, unfortunately, an increasing overdraft at the bank. The expenditure amounted to approximately £13 500. Subscriptions, donations, contributions, etc., yielded about £12,000, and the State Government contributed the sum of £600.

The report of the Training School for Nurses contains information in regard to the courses for the hospital nursing certificates and for the Australian Trained Nurses' examination. The honorary members of the Hospital staff receive the thanks of the Sisters of Charity for having devoted so much of their valuable time as lecturers and examiners.

Obituary.

VICTOR ALEXANDER HADEN HORSLEY.

A brief cable was received in Australia on July 21, 1916, announcing that Colonel Sir Victor Horsley had died of heat-stroke in Mesopotomia. Sir Victor, who was Colonel in the Royal Army Medical Corps, had exhibited great keenness and had performed invaluable service both in England and in France up to a few months ago. More recently he was appointed Consulting Surgeon to the Mediterranean Expeditionary Forces, and in this capacity spent some time in Egypt. The manner in which he fulfilled the terribly difficult task of setting matters right during this visit is well known, and the Empire is under a deep debt of gratitude to him for what he accomplished. It is probable that the War Office directed him to proceed to that hell, Mesopotamia, where the climatic conditions and pestilential diseases have cut short many valuable lives. The loss to the Empire at the present juncture is a cruel one, and the wisdom of the authorities in exposing a man of his worth to the conditions obtaining on the Tigris may well be questioned. His fame was world-wide, but only those who had the privilege of an intimate acquaintance with him will realize how gross the sacrifice of his life is.

Victor Alexander Haden Horsley was born in 1857. His father was an artist, and had secured the distinction of a Royal Academician. His education was begun at Cranbrook School, where he gave great promise of a distinguished career. It was continued at University College, and we may say that it was never completed. He remained a student through the 35 years of his professional life. In the year 1881 he took his degree of M.B. at the University of London, and at the same time won the University Scholarship and Gold Medal in Surgery. In 1883 he took the Fellowship of the Royal College of Surgeons. Horsley had scarcely left his Medical School when he began to delve into scientific research. The records of the Pathological Society reveal that, one year after qualifying, he was demonstrating specimens to illustrate the effect of syphilis on bone and on the brain, and in the same year he made some original observations in connexion with pyæmia, puerperal peritonitis and irritation peritonitis. The central nervous system attracted his special attention at a very early stage of his career, and in 1884 he was able to demonstrate to the members of the Royal Medical and Chirurgical Society of London the existence of true *nervi nervorum*. In November of the same year he made his first communication dealing with myxœdema. It will be remembered that the part played by Horsley in following out the pathology of this condition was no small one. He was appointed Professor Superintendent to the Brown Animal Sanatory Institution, and in this capacity he devoted much time to the production of myxœdema in monkeys. The true scientific value of this work has been much criticized by physiologists, but in justice to Horsley it must be claimed that he contributed largely toward the achievement of rendering this disease a curable one. In recognition of this and other scientific work undertaken at the Brown Institute, the Royal Society elected him a Fellow. In April, 1886, a Committee of the Local Government Board was appointed to enquire into and report on "M. Pasteur's method of preventing the development of rabies in persons bitten by rabid dogs." The personnel of this committee was as follows: Sir Henry Roscoe, M.P. (Chairman), Sir James Paget, Bart., Dr. Richard Quain, F.R.S., Professor Burdon Sanderson, F.R.S., Dr. (afterwards Sir) Lauder Brunton, F.R.S., and Mr. Fleming, Principal Veterinary Surgeon to the Army. Mr. Victor Horsley, M.B., F.R.S., was asked to act as Secretary. The services of the members of the committee were given gratuitously, but the sum of £300 was voted to defray the expenses of the enquiry. Horsley and some other members visited Paris and began a minute study of Pasteur's antirabic treatment within a few months of their appointment, and they received a great deal of most valuable assistance from the Father of Bacteriology. It appears that the real investigations of this committee were carried out by Horsley at the Brown Institute. The report was submitted in June, of 1887, and in it were contained recommendations in regard to the means to be adopted to stamp our hydrophobia in Great Britain. The report stimulated bitter opposition, and a long controversy ensued. In August, 1887, a Select Committee of the House of Lords issued a report, supplementing the departmental committee's recommendations. Public opinion was divided on the subject, and it was many years before the world recognized the truth of the position. The sequel of this piece of work, which belonged to Horsley in deed, was the issuing of the muzzling order and the orders dealing with the destruction of straying dogs by Mr. Walter Long, the President of the Local Government Board. As a result of these orders, rabies was finally expelled from the shores of Great Britain.

In the year 1886, Mr. Horsley was appointed Surgeon to the National Hospital for Paralysis and Epilepsy in Queen's Square, a post which he retained throughout his career. One of his earliest contributions to the subject of neurology was a joint communication with Felix Semon to the Annual Meeting of the British Medical Association, held at Brighton in 1886, on an apparently peripheral and differential action of ether upon the laryngeal muscles. At the same meeting he delivered a great address on brain surgery, and received very warm congratulations from the celebrated Charcot, Erichsen, Hughlings Jackson and many others. Following on this he investigated the production of epilepsy in guinea-pigs. This led to his greatest scientific work, namely, the determination of cerebral localization. While others have no doubt contributed more stepping-stones to the solid edifice on which brain surgery is founded, Horsley's ingenuity and industry have marked the transition between theory and practice, and he and Macewan pushed British cerebral and spinal surgery to the forefront. The Croonian lecture, delivered in 1891, on cerebral localization, in the preparation of which he collaborated with Gotch, stands to-day a work of the first importance and a pattern to research workers. Horsley naturally interested himself in the early history of brain surgery, and in 1887 and later, made some fine contributions to our knowledge of brain surgery as practised in the Stone Age. In 1888, Beevor and Horsley dealt with the motor functions of the cranial and the upper cervical nerves, and in the following year he reported to the Neurological Society of London that he had observed a characteristic symptom of cerebral lesions in the difference of temperature on the two sides of the body. The innervation of the larynx received further attention from him in 1890.

From 1888 onwards his practice as a brain surgeon grew apace. In that year he recorded one of the earliest operations for the removal of a tumour of the spinal cord; in 1891 we find a paper on craniectomy for the relief of microcephaly, and shortly after he performed the first of a long series of operations for the removal of the Gasserian ganglion, an operation in which he exhibited almost marvellous skill. In 1890 he met with a great reception at the International Congress of Medicine, held at Berlin, where he presented an address on "The Surgery of the Central Nervous System." Early in the following year he resigned his position at the Brown Animal Sanatory Institution, and in the same year he was appointed Croonian Lecturer of the Royal Society. From the year 1893 to 1896 he was Professor of Pathology at University College, and from 1891 to 1893 he was Fullerton Professor at the Royal Institution. His lectures on the "Structure and Functions of the Brain and Spinal Cord," delivered as Fullerton Professor, were subsequently published in book form, and stand to-day as a work of reference. He was elected President of the Section of Pathology at the Annual Meeting of the British Medical Association at Nottingham. In connexion with this phase of his work, emphasis should be laid on the mag-

nificent fight he put up in the interests of physiological research. Few men have spared more time than Horsley did for laboratory work while engaged in a large hospital and private practice. He attended regularly at his laboratory at University College, and even after he relinquished his professorship and became Emeritus Professor of Surgery and Consulting Surgeon at University College Hospital, he was seen frequently on the other side of the road, wending his way into the old laboratory, where his students and assistants were conducting work under his masterly direction.

Closely associated with his scientific work, there was another activity into which he threw much energy. Like all other experimental physiologists, he was viciously attacked by the fanatics who abound everywhere, and who are known as anti-vivisectionists. He was fearless in his rebuttal of the charges of cruelty, and even Mr Stephen Coleridge found himself hopelessly outmatched in the controversy. Arising out of his neurological work came the conviction of the inevitable destruction of tissue consequent on the ingestion of even the smallest quantity of alcohol. In 1900 he delivered the Lees and Raper Memorial Lecture on this subject, and from that time onward held his ground without flinching. His book on "Alcohol and the Human Body," published in collaboration with Dr. Mary Sturge, is perhaps the most powerful advocacy for total abstinence in our possession. In the course of this campaign he engaged in a characteristic controversy with Professor Karl Pearson, which amused and instructed the scientific world a few years ago.

In July, 1902, Mr. Victor Horsley received the honour of knighthood. Previously he had reaped many other honours. In 1894, the Senate of the University of Halle had conferred on him the honorary degree of *medicinae doctor*, and in the same year he had received the Royal Medal of the Royal Society for his "important investigations relating to the physiology of the nervous system and of the thyroid gland and to their application to the treatment of disease." The Fothergillian Medal and Premium became his in 1896. In 1897 he was elected by the Crown a Member of the Senate of the University of London. The Académie de Médecine of Paris elected him an honorary Fellow in 1910; he was made an honorary member of the Prussian Royal Academy of Science, a corresponding member of the Société de Paris and of the Medical Society of Buda-Pest; while the American Surgical Society and the American Neurological Society presented him with their honorary fellowship. In 1911 he obtained the Lannelongue International Gold Medal in Surgery.

The account which we have given of Sir Victor's scientific attainments and achievements is but an incomplete and imperfect one. It will, however, indicate the wide scope of his undertakings and the great value of his work to suffering humanity. There is one other matter which demands passing mention. Recent events have taught that he held definite views in regard to the procedure which should be followed in the case of cranial and cerebral injuries received in modern warfare. The proof that this doctrine was not a mere empyricism based on an idea and confirmed by the results of trials is evident from a perusal of a paper read to the members of the Medical Institute of Liverpool in 1893. The title of this paper was "The Cause of Death from Bullet Wounds of the Cerebral Hemispheres." In it he showed that death is caused by the sudden increase of intra-cranial pressure resulting from the entrance of the foreign body. As an operator he attained high skill, and leading surgeons from foreign countries always found something to learn in watching him performing a cerebral or spinal operation.

While the world is the richer by his activity as a physiologist and surgeon, the profession and the community are under a debt of gratitude to him for his ardent intervention into the field of medical politics. His address to the students of University College on "The Student and the Practitioner," delivered at the opening of the medical session in 1891, reveals all the high ideals which dominated the man in his attitude to his profession throughout his life. The need for reform in the management of the profession occupied his attention in the early 'nineties, and in 1896 he delivered a violent indictment against the "undesirable powers possessed by the President of the General Medical Council." In the following year he allowed himself to be nominated for election to the Council as direct representative of the medical profession, and his election followed in October of the same year. At short intervals he issued reports to his fellow-practitioners on the procedure and powers of the General Medical Council. For the first time the profession found that the interests of the majority were being safeguarded, and that an attack was being made on autocracy and on obsolete customs. In 1898 he pointed out the necessity for a reform in the legislative provisions of medical registration, and pleaded forcibly for a "reciprocity clause," as the most equitable means of admitting persons of foreign birth and education to the ranks of the profession in Great Britain.

Always closely connected with the sociological work of the British Medical Association, it is little surprising that we found him in 1902-1903 working strenuously for the perfecting of the new constitution. In 1903 his colleagues imposed their full confidence in him by electing him Chairman of the first Representative Meeting. He took the Chair at the meeting at Oxford in 1904, and continued in office through the meetings at Leicester and London in the two succeeding years. As a chairman he had few equals and no superiors. His knowledge of procedure was full, he never hesitated in giving a ruling and never gave one which was proved to be inaccurate. He held the meeting in the palm of his hand and opponents and followers alike rose in a great ovation when he made room for Dr. J. A. Macdonald to occupy the chair at Sheffield. As a speaker, he was great. Those who had the privilege of being associated with him in the work of the Association realized that when Sir Victor rose to address the meeting the subject-matter, the manner of delivery and the particular aspect to be illuminated would command the attention of everyone present. When he moved that Dr. Macdonald succeed him as Chairman of Representative Meetings, he fascinated his hearers and aroused an enthusiasm rarely evoked in meetings of the kind.

In 1904 he withdrew from the General Medical Council, deeply disappointed at having discovered that this body was incapable of being modernized or moved from its ultra-conservative attitude. He told the Representative Meeting that he had wasted time during the eight years of his membership in attempting to reform that obsolete body. He regarded the constitution of the Councils of the Royal College of Surgeons and of Physicians in the same light, and fought year in, year out, for a democratic government of the former. He served on innumerable committees of the British Medical Association, and commanded whole-hearted respect and adherence until the National Insurance episode. Then the profession was shaken to its very foundations. Sir Victor recognized the advantages of compulsory insurance at an early stage, and attempted to carry the profession with him. Advanced in his ideas, he failed to carry the majority, and he met for the first time a violent and widespread opposition to his policy in this connexion. At one memorable meeting he was subjected to indignities quite unfitted to the man or the occasion. His steadfastness of purpose and his inflexible determination to advocate what he believed to be the right course gave him an immeasurable advantage over the seething masses of men who attacked him and his honour. Horsley came out triumphant, because he refused to be influenced by sordid or unworthy motives, and because he had a wider view than the members who trembled at the idea of a great experiment.

Few men had more enemies, and, as a natural corollary, few men had stauncher supporters. His opponents hated him because of his exceptional power as a debater and as a thinker. He was intolerant of stupidity, but always recognized and appreciated singleness of purpose, logical deduction and fearlessness. Throughout his life, in all the varied activities of his career, he was fearless himself and expected the same quality in others. When attacked, he defended himself until he compelled those who had maligned him to publish an abject apology. The social status of the attacker made no difference to Sir Victor Horsley. Bishops, members of the aristocracy and members of his own profession alike regretted unjust attacks on this irresistible opponent. Of his political aspirations little need be said. He was never elected to parliament, possibly because many of his views were regarded as too extreme. In reality, he was an ideal socialist, and had he lived in Australia his influence on political life would most certainly have been

a beneficial one. He interested himself in the Adelaide Hospital difficulty in 1896, and contributed some letters on medico-political matters to Australian medical journals on a few occasions.

In 1887 he married the third daughter of Sir Frederick Branwell, Bart., and his sons gave promise of having inherited some of the extraordinary mental possessions of their parents.

One word must be devoted to Sir Victor's capability for work. Many men plead as an excuse for failing to do their duty that they have no time; they are so busy. Sir Victor had an immense surgical practice; he spent hours in his laboratory, working for the benefit of humanity; he served on numberless committees and rarely was absent from a meeting; he was ever ready to help a worthy colleague in his work and to devote the small hours of the morning to some special matter of importance. He never refused to take up work in which he had an interest, and always did his duty, regardless of the effect the doing might have on himself. He was called upon by his country to undertake a difficult task in a murderous climate, and did not hesitate one moment. It cost him his life. Truly he was a great man.

Correspondence.

ASTHMA, ITS CAUSE AND TREATMENT.

Sir,—Although I quite agree with the importance of remedying nasal defects in asthma, I quite disagree with much that Dr. Ewbank writes. There are quite a large number of cases of asthma with an absolutely normal nose, and these are the cases *par excellence* that do well with Francis' treatment, if they have a blood pressure above normal. Dr. Robertson, of Brisbane, and I are the only out-and-out supporters of Francis on this side of the globe, but I believe both of us differ from Francis on the importance of relieving first any abnormal condition of the nose. This statement also applies to cases of angina, migraine and headaches from high blood pressure. No one has worked out the why and the wherefore of Francis' treatment, but that blood pressure can be reduced by its means is a point on which anyone can satisfy himself by actual experiment. The close connexion between the vasomotor system in various organs is demonstrable also in some cases of dysmenorrhœa, where cocaine applied to the nasal mucosa relieves the pain. It is also brought to one's notice by the homely illustration of the dog at street corners.

I cannot agree with Dr. Ewbank about the appearance or importance of asthma spots. They are, I take it, areas that, upon being irritated by a probe, produce an attack of asthma. They vary in situation, even in the same patient, from day to day. When the inferior turbinate touches the septum, either the latter is grossly deviated or the turbinate enormously turgescent, and mere snipping of the mucosa of the turbinate anteriorly is bad surgery. It destroys valuable material, and does not relieve turgescence.

Septal spurs (apart from deviation) have never had the slightest effect upon asthma in my experience. Deviations of the septum are the most prolific of all abnormal conditions, though mucous polypi would run them very close. These two are often found in combination; possibly the latter are often caused by the former. The presence of polypi in the ethmoid or sinuses is frequently overlooked.

As regards the use of cautery in asthma, Dr. Ewbank is doubtless not acquainted with Francis' technique, or he would not write about asthma spots being hidden under cautery scars. It is not meant to destroy asthma spots. Its aim and object is to reduce blood pressure, and should never be used in cases of asthma that have not a high blood pressure.

Yours, etc.,

W. KENT HUGHES.

22 Collins Street, Melbourne.
(Undated.)

THE METRIC SYSTEM IN PRESCRIBING.

Sir,—The metric system has been before the world for well over a century, and yet, excepting as regards coinage, it has not been accepted by the vast mass of people in any English-speaking country. Although the medical and pharmaceutical professions have had such ample opportunity, yet they have never made any real attempt to use it as a common rule, notwithstanding that time and again ardent supporters have thrust the subject on their notice. Yet in decimal coinage it is admitted by all that calculations are immensely simplified, and no country with a decimal coinage would dream of abandoning it. Why, therefore, has the metric system been a success in coinage, while an abject failure in prescribing? It is a failure, even in America, where decimal coinage is regarded as perfection. There must be a reason. To my mind the explanation is that the unit in decimal coinages is always a small coin, which never requires subdivision. It need only be multiplied or used in multiples. It is very easy to multiply by ten, and to shift a decimal point to denote a higher denomination. But it is not an easy thing to use decimals downward for division into amounts below the unit. It requires a mental process from which the average man instinctively shrinks. Now, the fundamental unit of metric prescribing, the gramme, is far too large. It has no analogy to the cent, or the millième, both indivisable units in coinages. It is many times the weight of the lethal dose of many alkaloids which we prescribe in therapeutic doses. Until we are taught to think in childhood in metric terms, and to learn decimal divisions at school instead of the present multiplication table, we will not feel confident in making decimal divisions when prescribing, say, strychnine or morphine. I wish to emphasize that, although eminently advantageous for multiplication, the metric system is not suitable for division into amounts lower than the unit. Ten can be divided only by two and five. Twelve, on the other hand, can be divided by two, three, four, and six. It is a natural thing to halve, and quarter, and so on. Even in decimal coinage countries the people also use the old fractions. The American talks of half and quarter dollars, and the Wall Street quotations of rise and fall in value of stocks are published, not in decimals, but as eighths, twelfths, and so on. In my opinion, the advocates of decimal prescribing will be voices in the wilderness until they have made the system more in accordance with natural instincts in calculation. The first thing I imagine is to make the decigramme, and not the gramme, the unit of solids. One-tenth the bulk of the cubic centimetre could form the liquid unit. Neither would be excessively larger than the old grain and minim, to which the profession have been accustomed. We could think out our dosage without any violent transition from the present standard. Also, they would not be excessive or lethal doses of most drugs, excepting a few very potent alkaloids. Only rarely would they need to be spoken of in divisions. The almost invariable thing would be to multiply. The present nomenclature of gramme, cubic centimetre, and so on, would then suit. A gramme, or deci-c.cm., would be ten times the respective units. Now, as to subdivisions. I submit, although it will shock doctrinaires, that the old natural divisions into halves, thirds, quarters, and so on, should be allowed. They are infinitely more convenient than the decimal divisions. Indeed, the metric system cannot accurately express a third or a sixth at all. To write one-sixth, or one-eighth, needs a chain of figures. Yet they are all valuable fractions. To write ¼ or ¾ is infinitely more simple, and far less liable to error than to write .25, or .75. Most fractions, decimally expressed, need several figures. Also, there is the possibility of the displacement of the decimal point taking place inadvertently, and disasters consequently occurring. This is a real obstacle to decimal subdivisions of deadly drugs. With the old-fashioned fractional notation, this is impossible. The dividing-line method, suggested by Dr. Corlette, is a happy device, but it would take years to be accepted generally. It is, in any case, a confession of the danger. It could, however, still be used as a protection against error in multiplying the unit.

I put forward the suggestions contained in this letter as an academic contribution to the discussion, and not with any expectation of their being accepted. I do not think the metric system, in its present form, in prescribing will be accepted in English-speaking lands, unless by legal compulsion—and then it would be largely ignored. A few enthusiasts will always use it, as they do now. The fact, which I know from personal observation, that in a decimal coin land like America the metric system has failed in every

other department, in weights, measures and thermometry, convinces me that there is no likelihood of it catching on in a hurry at this late stage of its history in other countries which have not even adopted the really excellent metric coinage.

Yours, etc.,
T. J. HENRY, F.R.C.S. (Edin.).

Grafton, July 17, 1916.

Proceedings of the Australasian Medical Boards.

QUEENSLAND.

The following have been registered under the provisions of the "Medical Act of 1867" as duly qualified medical practitioners:—

Hawthorne, William Stuart, Brisbane Hospital, M.B., Ch.M., Univ. Syd., 1915.

Meade, Frampton Garnsey, Laidley, M.B., Ch.B., Univ. Melb., 1913.

Books Received.

SCHOOL HYGIENE FOR THE USE OF STUDENTS IN THE TEACHERS' TRAINING COLLEGE, NEW SOUTH WALES, by C. Savill Willis, M.B., Ch.M., M.R.C.S., L.R.C.P., D.P.H., 1916. Sydney: W. A. Gullick, Government Printer; Demi 8vo., pp. 180.

Medical Appointments.

Dr. Donald Cameron has been appointed Public Vaccinator, Leonora, Western Australia.

Dr. Arthur Chenery has been appointed Government Medical Officer, Wentworth, New South Wales, in place of Dr. A. J. M. Fargie (resigned).

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxi.

Education Department, South Australia, Medical Inspector.

Women's Hospital, Melbourne, Resident Medical Superintendent.

Thursday Island Hospital, Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Brisbane United F.S. Institute.
WESTERN AUSTRALIA. (Hon. Sec., 230 St. George's Terrace, Perth.)	Swan District Medical Officer. All Contract Practice Appointments in Western Australia.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Department of Public Instruction—New Appointments as Medical Officer, Ophthalmic Surgeon, Ear, Nose and Throat Surgeon, Physician. Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Orange. F.S. Lodges at Parramatta, Penrith, Auburn, and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	F.S. Lodges, Wellington, N.Z.

Diary for the Month.

Aug. 1.—N.S.W. Branch, B.M.A., Medical Politics Committee.
Aug. 2.—Vic. Branch, B.M.A., Branch.
Aug. 4.—Q. Branch, B.M.A., Branch.
Aug. 8.—N.S.W. Branch, B.M.A., Ethics Committee.
Aug. 10.—Vic. Branch, B.M.A., Council.
Aug. 11.—N.S.W. Branch, B.M.A., Clinical Evening.
Aug. 11.—S. Aust. Branch, B.M.A., Council.
Aug. 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Aug. 16.—W. Aust. Branch, B.M.A., General.
Aug. 16.—North Eastern Med. Assoc. (N.S.W.).
Aug. 17.—City Med. Assoc., N.S.W.
Aug. 18.—Q. Branch, B.M.A., Council.
Aug. 25.—N.S.W., Branch, B.M.A., Branch.
Aug. 29.—N.S.W., Branch, B.M.A., Medical Politics Committee, Organization and Science Committee.
Aug. 30.—Vic. Branch, B.M.A., Council.
Aug. 31.—S. Aust. Branch, B.M.A., Branch.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.

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